



State of Maine  
Janet T. Mills  
Governor

March 5, 2024

Senator Stacy Brenner, Chair  
Representative Lori K. Gramlich, Chair  
Members of the Joint Standing Committee on Environment and Natural Resources  
100 State House Station  
Augusta, ME 04333-0100

Senator Mark W. Lawrence, Chair  
Representative Stanley Paige Zeigler, Jr., Chair  
Members of the Joint Standing Committee on Energy, Utilities and Technology  
100 State House Station  
Augusta, ME 04333-0100

RE: Regional Greenhouse Gas Initiative (RGGI) 2023 Annual Report

Dear Senator Brenner, Senator Lawrence, Representative Gramlich, Representative Zeigler,  
Members of the Joint Standing Committee on Environment and Natural Resources, and  
Members of the Joint Standing Committee on Energy, Utilities and Technology:

The Regional Greenhouse Gas Initiative (RGGI) is a cooperative, market-based effort among the states of Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont, and Virginia to cap and reduce carbon dioxide (CO<sub>2</sub>) emissions from the power sector. RGGI represents the first cap-and-invest regional initiative implemented in the United States.

Title 38 Maine Revised Statutes (M.R.S.) §580-B, sub-§10, established by Public Law, Chapter 317 of the 123<sup>rd</sup> Legislature and amended by Public Laws, Chapter 372 of the 124<sup>th</sup> Legislature and Chapter 369 of the 126<sup>th</sup> Legislature, directs the Department of Environmental Protection (Department), the Public Utilities Commission (Commission), and the trustees of the Efficiency Maine Trust (the “Trust” or “Efficiency Maine”) to submit a joint report to the joint standing committees of the Legislature having jurisdiction over natural resource matters and utilities and energy matters by March 15<sup>th</sup> annually, regarding items related to implementation of the RGGI. This letter serves as the annual report and addresses the seven items listed in the statute. This letter also provides an update on the appropriateness of the number of allowances reserved in accordance with the voluntary renewable energy set-aside provisions.

**A. The reductions of greenhouse gas emissions from carbon dioxide budget units, conservation programs funded by the Regional Greenhouse Gas Trust Fund pursuant to Title 35-A, section 10109, and carbon dioxide emissions offset projects.**

**Reductions of greenhouse gas emissions from carbon dioxide (CO<sub>2</sub>) budget units.** As a group, CO<sub>2</sub> budget units (RGGI units) located in Maine and throughout the RGGI region have experienced significant reductions in CO<sub>2</sub> emissions from the baseline period (2000 to 2005) both prior to and since the program began with the first auctions in 2008 (see Tables 1 and 2, below). To date, CO<sub>2</sub> emissions from RGGI units within the State of Maine have decreased by approximately 70% from levels emitted during the baseline period and CO<sub>2</sub> emissions from RGGI units within the RGGI region have decreased by over 50% from levels emitted during the baseline period.

The RGGI program was originally designed to stabilize CO<sub>2</sub> emissions from RGGI units in the region for the period from 2009 through 2014. Subsequently, beginning in 2015 and extending to 2018, the annual cap on emissions was to have been reduced by 2.5% per year to achieve a 10% reduction in emissions from baseline levels. Due to the achievement of greater reductions in CO<sub>2</sub> emissions from RGGI units than originally anticipated, the State of Maine, along with the other RGGI participating states, made program changes to adjust the annual cap downward in 2014 and beyond, to build on these significant emission reduction achievements. For the calendar year 2014, the annual cap for the region was reduced from 165 million allowances to 91 million allowances, representing a 45% reduction in the cap. Maine's share of the adjusted regional annual cap was 3.6%, which represented approximately 3.3 million allowances in 2014. The 91 million allowance annual cap was further adjusted to address a surplus of unused allowances remaining in the secondary market following the first and second three-year compliance periods, which closed at the end of 2011 and at the end of 2014, respectively. The adjusted cap continued to be reduced at the rate of 2.5% per year between 2015 and 2020. The RGGI participating states completed a second program review in 2017, which resulted in agreement by the participating states to make further changes to the program, including extending the regional cap reduction period from 2020 through 2030 and reducing the regional annual cap by a fixed amount of 2,275,000 allowances per year (representing 2.5% of the 2014 regional cap).

Following adjustments made to the regional cap and other changes to the program as a result of the 2017 program review, the RGGI expanded with New Jersey rejoining the program beginning in 2020 and Virginia joining the program beginning in 2021. With the addition of New Jersey and Virginia to the program, the regional cap was increased by 18 million allowances in 2020 to account for New Jersey rejoining, and by approximately 27.2 million allowances in 2021, to account for Virginia joining.

Table 1, on the following page, shows annual CO<sub>2</sub> emissions data from Maine's RGGI units from 2000 through 2023. Maine's RGGI units consist of the following facilities:

- FPL Energy Wyman, an 850 MW oil-fired power plant owned and operated by NextEra Energy Resources and located on Cousins Island in Yarmouth, Maine. This facility is currently functioning as a peaking unit that operates during times of high electricity demand when called on by ISO-New England.

- Androscoggin Energy, a 164 MW combined cycle natural gas-fired cogeneration power plant recently purchased, along with the associated paper mill, from Pixelle Androscoggin LLC by JGT2 Redevelopment. The facility is located adjacent to the former Pixelle Androscoggin paper mill in Jay, Maine, but ceased operations when the paper mill ceased operations in March of 2023. How or whether this facility will be operated in the future are uncertain at this time.
- Bucksport Generation, a 187 MW combined cycle/simple cycle natural gas-fired power plant owned and operated by Bucksport Generation LLC and located at the former Verso Bucksport paper mill site in Bucksport, Maine. This facility is currently functioning as a simple cycle peaking unit that operates during times of high electricity demand when called upon by ISO-New England.
- Maine Independence Station, a 550 MW combined cycle natural gas-fired power plant owned and operated by Casco Bay Energy Company LLC and located in Veazie, Maine.
- Westbrook Energy Center, a 565 MW combined cycle natural gas-fired power plant owned and operated by Calpine Corporation and located in Westbrook, Maine.
- Rumford Power, a 275 MW combined cycle natural gas-fired power plant owned and operated by Revere Power LLC and located in Rumford, Maine.

Since the early 2000s, combined emissions from the RGGI units in Maine have generally decreased by a significant amount. After a relatively low emission period between 2017 and 2020, emissions increased slightly in 2021 and 2022, but are trending down again in 2023. Emissions for 2023 are projected to be approximately 20% lower than emissions in 2022; however, 2023 emissions data will not be quality-assured until the second quarter of 2024, so they are included only as projected numbers in Table 1 and its associated Bar Chart, below. The recent overall increase in emissions from Maine RGGI units in 2021 and 2022 can be explained by a combination of factors, including the variability in the number and length of hot and cold weather events from season to season and year to year, the overall variability in electricity demand, the variability in the supply of natural gas in Maine, the variability in natural gas prices, the variability in economic conditions, recovery from the COVID-19 pandemic, the operating status of other electric generation facilities in the region, and electric grid conditions. The CO<sub>2</sub> emissions data in Table 1 comes from the Environmental Protection Agency's Air Markets Program Data website: <https://campd.epa.gov> and is supplemented by CO<sub>2</sub> emissions data from emission reports contained in RGGI's CO<sub>2</sub> Allowance Tracking System (COATS): [www.rggi.org](http://www.rggi.org).

**Table 1 and Bar Chart**

| Maine RGGI Source Annual CO <sub>2</sub> Emissions (U.S. Tons) |                  |                     |                      |                            |                         |               |               |
|--|------------------|---------------------|----------------------|----------------------------|-------------------------|---------------|---------------|
| Year   | FPL Energy Wyman | Androscoggin Energy | Bucksport Generation | Maine Independence Station | Westbrook Energy Center | Rumford Power | Annual Totals |
| 2000   | 1,731,846        | 519,770             | 0                    | 744,689                    | 0                       | 153,306       | 3,149,611     |
| 2001   | 1,010,729        | 565,951             | 731,450              | 1,402,914                  | 1,042,637               | 762,634       | 5,516,315     |
| 2002   | 397,062          | 608,960             | 829,490              | 1,582,011                  | 1,580,945               | 782,900       | 5,781,368     |
| 2003   | 1,119,510        | 571,181             | 778,527              | 1,025,612                  | 1,358,157               | 661,740       | 5,514,727     |
| 2004   | 616,030          | 472,481             | 810,749              | 1,178,901                  | 1,412,282               | 701,496       | 5,191,939     |
| 2005   | 788,209          | 1,019               | 792,796              | 1,153,173                  | 1,419,619               | 432,298       | 4,587,114     |
| 2006   | 70,853           | 24,826              | 780,609              | 946,041                    | 1,341,636               | 207,857       | 3,371,822     |
| 2007   | 357,638          | 349,532             | 708,412              | 831,251                    | 991,719                 | 294,645       | 3,533,197     |
| 2008   | 185,915          | 481,163             | 796,139              | 730,736                    | 1,090,087               | 407,238       | 3,691,278     |
| 2009   | 242,371          | 357,730             | 809,077              | 995,235                    | 1,015,132               | 223,948       | 3,643,493     |
| 2010   | 198,691          | 489,273             | 813,064              | 1,130,402                  | 1,079,445               | 232,583       | 3,943,458     |
| 2011   | 107,642          | 416,387             | 766,548              | 778,158                    | 1,081,176               | 187,549       | 3,337,460     |
| 2012   | 77,825           | 357,371             | 787,071              | 532,676                    | 1,018,917               | 166,212       | 2,940,072     |
| 2013   | 211,641          | 352,862             | 793,406              | 161,783                    | 1,011,082               | 81,649        | 2,612,423     |
| 2014   | 232,538          | 318,997             | 259,499              | 485,857                    | 775,593                 | 182,988       | 2,255,472     |
| 2015   | 434,966          | 248,856             | 40,954               | 147,372                    | 778,410                 | 127,963       | 1,778,521     |
| 2016   | 93,552           | 114,878             | 6,323                | 247,610                    | 916,993                 | 183,510       | 1,562,866     |
| 2017   | 103,597          | 136,614             | 5,092                | 147,329                    | 572,160                 | 104,859       | 1,069,651     |
| 2018   | 151,727          | 232,300             | 8,940                | 104,306                    | 616,175                 | 69,767        | 1,183,215     |
| 2019   | 10,136           | 248,036             | 1,313                | 125,099                    | 390,823                 | 29,423        | 804,830       |
| 2020   | 16,456           | 277,735             | 2,987                | 81,955                     | 413,691                 | 74,515        | 867,339       |
| 2021   | 9,298            | 300,774             | 4,364                | 235,978                    | 771,010                 | 145,038       | 1,466,462     |
| 2022   | 218,462          | 314,284             | 7,243                | 293,754                    | 1,012,112               | 189,862       | 2,035,717     |
| 2023 (projected)   | 44,176           | 62,396              | 10,048               | 415,088                    | 956,831                 | 175,962       | 1,664,501     |

### Maine RGGI Source Annual CO<sub>2</sub> Emissions

U.S. (Short) Tons of CO<sub>2</sub>

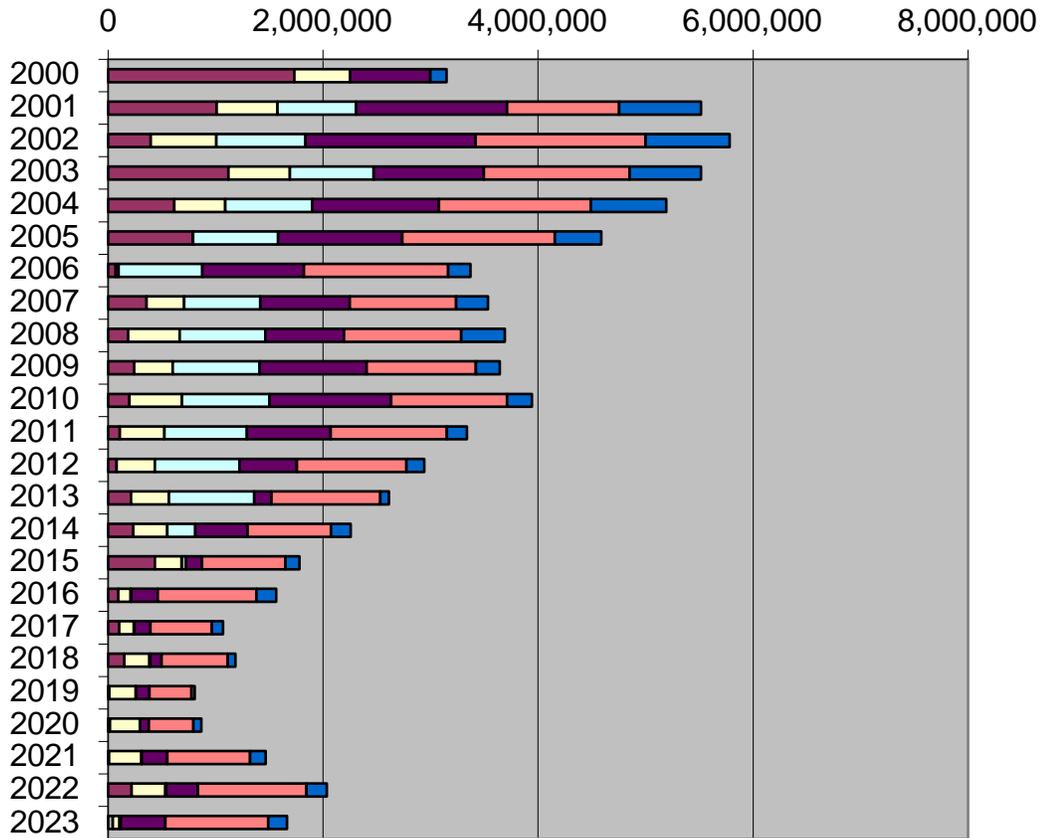


Table 2 shows annual CO<sub>2</sub> emissions data from all RGGI units in the region, by state, from 2000 through 2023. RGGI units in Maine accounted for less than 2 percent of all CO<sub>2</sub> emissions from RGGI units in 2022. Emissions data for 2023 will not be quality-assured until the second quarter of 2024, so they are included only as projected numbers in Table 2 and its associated Bar Chart, below. The CO<sub>2</sub> emissions data in Table 2 comes from the Environmental Protection Agency’s Air Markets Program Data website: <https://campd.epa.gov> and is supplemented by CO<sub>2</sub> emissions data from emission reports contained in RGGI’s CO<sub>2</sub> Allowance Tracking System (COATS): [www.rggi.org](http://www.rggi.org). Numbers in this report may differ from numbers in previous reports due to adjustments made by individual states based on certain CO<sub>2</sub> emissions being eligible for exemption because of individual state set-aside programs, eligible biomass related emissions, or eligible combined heat and power thermal output related emissions.

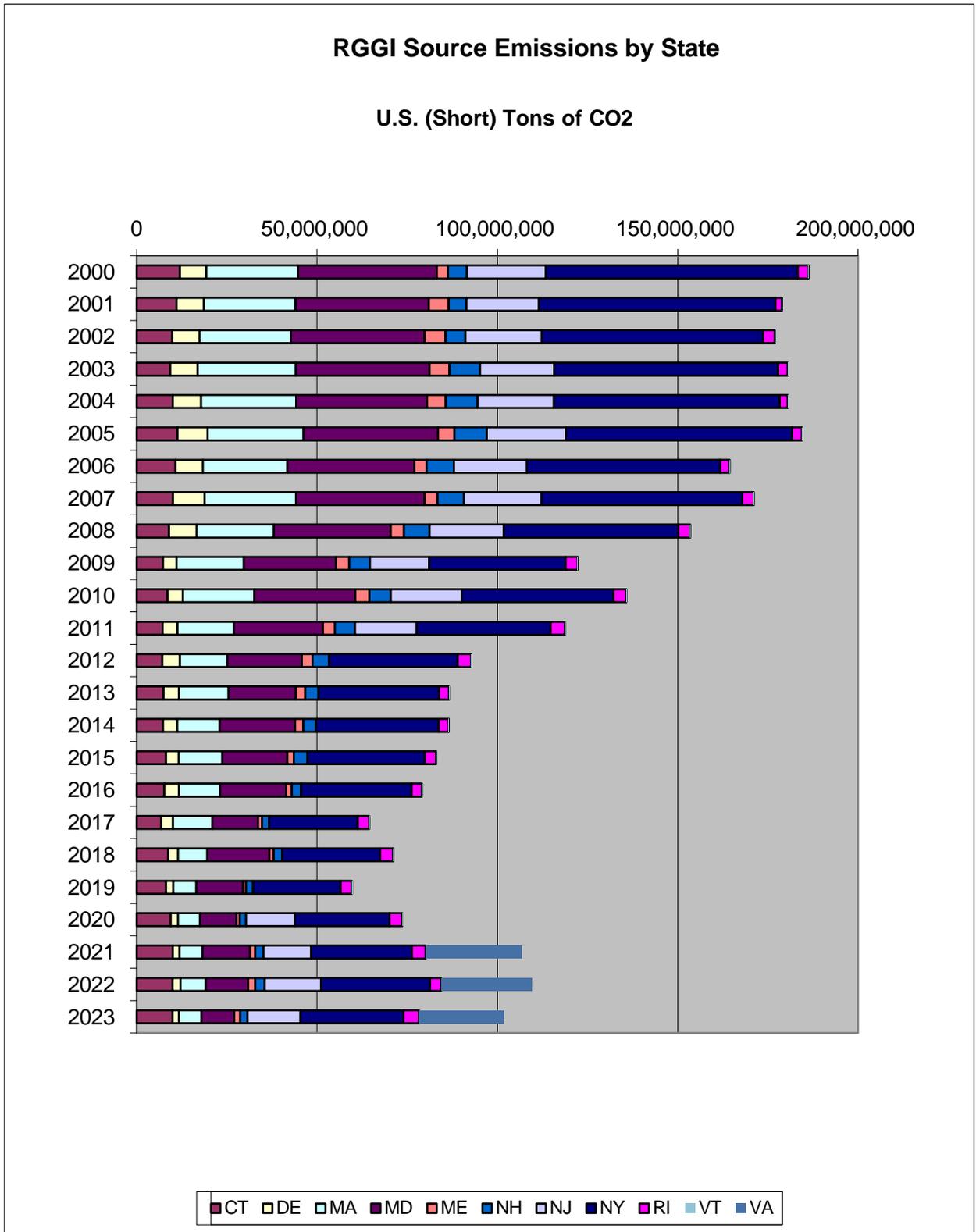
**Table 2 and Bar Chart**

| <b>RGGI Source Annual CO<sub>2</sub> Emissions by State (U.S. Tons)</b> |            |           |            |            |           |           |            |            |           |        |    |               |
|---|------------|-----------|------------|------------|-----------|-----------|------------|------------|-----------|--------|----|---------------|
| Year  | CT         | DE        | MA         | MD         | ME        | NH        | NJ         | NY         | RI        | VT     | VA | ANNUAL TOTALS |
| 2000  | 11,977,434 | 7,308,248 | 25,452,680 | 38,446,856 | 3,156,292 | 5,178,731 | 21,954,959 | 69,809,356 | 2,959,594 | 24,914 | ** | 186,269,063   |
| 2001  | 11,005,310 | 7,612,366 | 25,400,430 | 36,980,555 | 5,517,285 | 4,862,445 | 20,177,621 | 65,553,672 | 1,782,110 | 22,015 | ** | 178,913,809   |
| 2002  | 9,842,414  | 7,616,896 | 25,278,273 | 37,084,544 | 5,784,563 | 5,556,992 | 21,145,667 | 61,367,406 | 3,254,015 | 5,171  | ** | 176,935,941   |
| 2003  | 9,273,759  | 7,628,367 | 27,218,204 | 37,064,738 | 5,515,325 | 8,478,382 | 20,543,331 | 62,129,292 | 2,668,990 | 12,094 | ** | 180,532,482   |
| 2004  | 9,989,119  | 7,884,001 | 26,369,630 | 36,281,466 | 5,191,939 | 8,812,538 | 21,133,145 | 62,612,353 | 2,219,100 | 14,779 | ** | 180,508,070   |
| 2005  | 11,323,844 | 8,300,628 | 26,640,945 | 37,263,686 | 4,587,114 | 8,972,027 | 21,937,521 | 62,718,683 | 2,692,228 | 7,781  | ** | 184,444,457   |
| 2006  | 10,761,759 | 7,561,295 | 23,449,199 | 35,233,070 | 3,371,822 | 7,568,884 | 20,224,255 | 53,638,129 | 2,625,422 | 6,337  | ** | 164,440,172   |
| 2007  | 10,052,782 | 8,744,154 | 25,366,733 | 35,700,194 | 3,533,197 | 7,314,954 | 21,515,622 | 55,717,151 | 3,161,200 | 6,112  | ** | 171,112,099   |
| 2008  | 8,988,858  | 7,615,966 | 21,438,041 | 32,383,517 | 3,691,278 | 7,095,147 | 20,601,805 | 48,348,177 | 3,292,517 | 2,559  | ** | 153,457,865   |
| 2009  | 7,322,364  | 3,708,331 | 18,661,076 | 25,572,943 | 3,643,493 | 5,769,881 | 16,359,443 | 37,861,408 | 3,416,783 | 1,965  | ** | 122,317,687   |
| 2010  | 8,527,102  | 4,299,269 | 19,804,384 | 27,958,958 | 3,943,458 | 5,899,447 | 19,681,308 | 42,113,171 | 3,504,392 | 3,756  | ** | 135,735,245   |
| 2011  | 7,148,159  | 4,150,396 | 15,634,925 | 24,699,638 | 3,337,460 | 5,525,369 | 17,117,779 | 37,148,379 | 3,946,582 | 6,537  | ** | 118,715,224   |
| 2012  | 7,117,572  | 4,839,522 | 13,218,526 | 20,596,979 | 2,940,072 | 4,642,898 | *          | 35,640,442 | 3,735,785 | 2,319  | ** | 92,734,115    |
| 2013  | 7,456,580  | 4,285,050 | 13,677,462 | 18,683,424 | 2,612,423 | 3,653,195 | *          | 33,476,561 | 2,771,105 | 2,761  | ** | 86,618,561    |
| 2014  | 7,271,363  | 3,922,999 | 11,795,107 | 20,903,449 | 2,255,472 | 3,573,178 | *          | 34,028,752 | 2,767,290 | 2,708  | ** | 86,530,318    |
| 2015  | 8,154,364  | 3,519,097 | 12,039,394 | 18,050,117 | 1,778,521 | 3,818,378 | *          | 32,550,962 | 3,075,646 | 1,216  | ** | 82,987,695    |
| 2016  | 7,681,343  | 4,042,227 | 11,389,968 | 18,332,243 | 1,562,866 | 2,546,809 | *          | 30,666,015 | 2,829,861 | 2,678  | ** | 79,054,010    |
| 2017  | 6,832,734  | 3,244,029 | 10,888,903 | 12,678,303 | 1,069,651 | 1,982,047 | *          | 24,577,905 | 3,213,211 | 4,349  | ** | 64,491,132    |
| 2018  | 8,743,239  | 2,716,368 | 8,107,721  | 17,203,574 | 1,183,215 | 2,297,766 | *          | 27,215,742 | 3,539,026 | 2,072  | ** | 71,008,723    |
| 2019  | 8,107,905  | 2,024,610 | 6,436,139  | 12,925,318 | 804,829   | 1,994,454 | *          | 24,408,013 | 3,151,489 | 546    | ** | 59,853,303    |

|                             |           |           |           |            |           |           |            |            |           |       |            |                    |
|-----------------------------|-----------|-----------|-----------|------------|-----------|-----------|------------|------------|-----------|-------|------------|--------------------|
| <b>2020</b>                 | 9,432,967 | 2,018,528 | 6,109,756 | 10,160,365 | 867,339   | 1,722,230 | 13,548,775 | 26,217,597 | 3,580,279 | 1,085 | **         | <b>73,658,921</b>  |
| <b>2021</b>                 | 9,971,233 | 1,856,439 | 6,456,382 | 13,123,694 | 1,466,462 | 2,291,357 | 13,232,337 | 27,897,486 | 3,781,117 | 3,059 | 26,566,278 | <b>106,645,844</b> |
| <b>2022</b>                 | 9,891,466 | 2,212,130 | 7,090,568 | 11,666,095 | 2,035,717 | 2,598,834 | 15,681,373 | 30,182,493 | 3,068,849 | 3,903 | 25,175,110 | <b>109,606,538</b> |
| <b>2023<br/>(projected)</b> | 9,909,670 | 1,819,126 | 6,203,020 | 9,079,162  | 1,664,501 | 2,044,023 | 14,692,738 | 28,566,272 | 4,271,126 | 2,066 | 23,589,888 | <b>101,841,592</b> |

*\* New Jersey's emissions from 2012 through 2019 are not included in Table 2 since New Jersey ended its participation in RGGI at the end of 2011. Beginning January 1, 2020, New Jersey resumed participation in RGGI, so emissions from New Jersey are again included, beginning with calendar year 2020.*

*\*\* Virginia did not begin participation in RGGI until January 1, 2021, so emissions data for Virginia are not included in this table until calendar year 2021. Virginia stopped participation in RGGI at the end of 2023.*



### **Reductions of greenhouse gas emissions from conservation programs funded by the Regional Greenhouse Gas Initiative Trust Fund.**

To date, the cumulative carbon dioxide savings over the life of the measures installed through the Trust's RGGI-funded conservation programs is estimated at 5,430,663 tons. These savings can be attributed to both direct fossil fuel reductions and reduced electricity use.

In June 2013, the Maine Legislature passed LD 1559, An Act to Reduce Energy Costs, Increase Energy Efficiency, Promote Electric System Reliability and Protect the Environment, also referred to as the Omnibus Energy Bill (Public Law 2013, Chapter 369). The Omnibus Energy Bill authorized the Trust to fund, on a large scale, projects that save heating oil, Maine's most common heating fuel. In the spring of 2016, the Maine Legislature passed LD 1398, An Act to Reduce Electric Rates for Maine Businesses (Public Law 2016, Chapter 498), amending the Efficiency Maine Trust Act to provide new direction on the allocation of RGGI investments. Beginning in fiscal year 2017 (FY 2017), the amended law required the Trust to allocate \$3 million annually to the PUC to be disbursed as "rate relief" to a select group of energy-intensive manufacturers, known as "affected customers."

In light of declining RGGI revenues over a period of multiple quarters thereafter, the Maine Legislature instituted further amendments to the statute in the spring of 2017 through LD 1313, An Act To Establish Energy Policy in Maine (Public Law 2017, Chapter 282). First, it reduced the \$3 million annual affected customer transfer to \$2.5 million in FY 2018 and \$2.5 million in FY 2019 and added a \$1.0 million payment in FY 2020. FY 2020 was the last year of the set-aside of RGGI funds for affected customers. Second, it eliminated, for the next three years, the requirement that the Trust split the remaining RGGI revenues evenly between residential and commercial and industrial programs. In the spring of 2019, the Maine Legislature revised the statute once again through LD 398, An Act To Allow for Greater Flexibility in Addressing Energy Efficiency Needs in the State (Public Law 2019, Chapter 69), eliminating the sector allocation requirements.

The objectives currently set in Maine statute for the Trust's use of RGGI funds are to support the goals and implementation of the carbon dioxide cap-and-trade program established under Title 38, section 580-B, and to promote measures that reduce electricity consumption, lower energy costs, and increase energy efficiency or reduce greenhouse gas emissions.

### **Reductions of greenhouse gas emissions from offset projects.**

The offset project certification and application process was implemented in June of 2009. Independent third-party verifier status has been approved for private entities in several of the RGGI participating states. Maine has received and approved applications from two entities for providing independent third-party verification services; however, to date, Maine has received no applications for RGGI offset projects located within the state. There has only been one project that has completed the application process in the entire RGGI region. It is possible the demand for offset projects and their associated allowances may increase if allowance prices continue to increase to a point where offset projects become more

economically competitive with allowances that can be purchased at auction or within the secondary market.

**B. The improvements in overall carbon dioxide emissions and energy efficiency from sources that emit greenhouse gases, including electrical generation and fossil fuel-fired units.**

The yearly totals displayed in Table 3 and its associated Bar Chart show the improvements in CO<sub>2</sub> emissions from source sectors within Maine that emit greenhouse gases. The CO<sub>2</sub> emissions data in Table 3 is based on data from the *Ninth Biennial Report on Progress toward Greenhouse Gas Reduction Goals*: [www.maine.gov/dep/publications/reports](http://www.maine.gov/dep/publications/reports) and updated with data from the Environmental Protection Agency’s State Implementation Tool (SIT) for 2021.

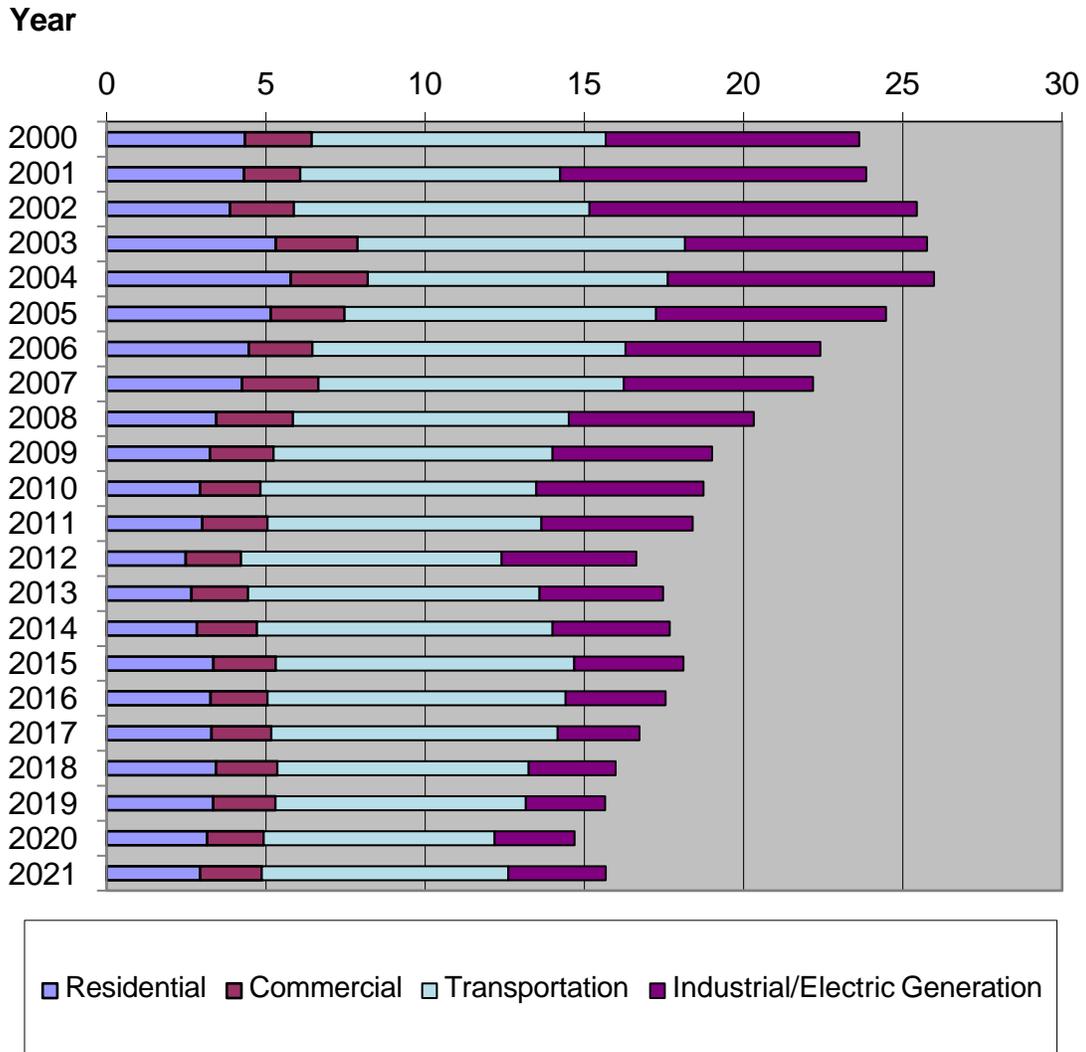
**Table 3 and Bar Chart**

| <b>Maine Annual CO<sub>2</sub> Emissions from Fossil Fuel Combustion (In Millions of U.S. Tons)</b> |             |            |                |                                |       |
|---|-------------|------------|----------------|--------------------------------|-------|
| Year  | Residential | Commercial | Transportation | Industrial/Electric Generation | Total |
| 2000  | 4.34        | 2.10       | 9.23           | 7.96                           | 23.63 |
| 2001  | 4.31        | 1.77       | 8.16           | 9.61                           | 23.85 |
| 2002  | 3.88        | 2.01       | 9.27           | 10.28                          | 25.44 |
| 2003  | 5.32        | 2.57       | 10.28          | 7.59                           | 25.76 |
| 2004  | 5.78        | 2.42       | 9.42           | 8.36                           | 25.98 |
| 2005  | 5.15        | 2.33       | 9.77           | 7.22                           | 24.47 |
| 2006  | 4.46        | 2.00       | 9.83           | 6.12                           | 22.41 |
| 2007  | 4.25        | 2.40       | 9.59           | 5.94                           | 22.18 |
| 2008  | 3.44        | 2.41       | 8.66           | 5.80                           | 20.32 |
| 2009  | 3.24        | 2.01       | 8.75           | 5.01                           | 19.02 |
| 2010  | 2.94        | 1.89       | 8.67           | 5.24                           | 18.74 |
| 2011  | 3.01        | 2.05       | 8.60           | 4.75                           | 18.40 |
| 2012  | 2.48        | 1.75       | 8.17           | 4.23                           | 16.63 |
| 2013  | 2.66        | 1.79       | 9.14           | 3.89                           | 17.48 |
| 2014  | 2.84        | 1.89       | 9.28           | 3.67                           | 17.68 |
| 2015  | 3.36        | 1.96       | 9.36           | 3.43                           | 18.11 |
| 2016  | 3.26        | 1.79       | 9.37           | 3.13                           | 17.55 |
| 2017  | 3.30        | 1.87       | 8.99           | 2.57                           | 16.74 |
| 2018  | 3.44        | 1.92       | 7.89           | 2.73                           | 15.98 |
| 2019  | 3.34        | 1.96       | 7.86           | 2.49                           | 15.65 |
| 2020  | 3.16        | 1.78       | 7.25           | 2.50                           | 14.69 |
| 2021  | 2.94        | 1.93       | 7.75           | 3.06                           | 15.67 |

*Note: Emissions data for calendar years 2022 and 2023 are not yet available.*

## Maine Annual CO2 Emissions from Fossil Fuel Combustion

US Short Tons of CO2



**C. The maximization of savings through systemic energy improvements statewide.**

The Trust's programs are described in more detail in section E. A review of the Trust's FY 2023 annual report<sup>1</sup> illustrates a comprehensive suite of cost-effective statewide programs, operating under the brand of "Efficiency Maine," made possible through effective marketing and vendor partnerships. This has allowed the Trust to develop a robust, low-cost infrastructure for delivering conservation programs to Maine's energy consumers.

By using RGGI funds to provide technical assistance and financial incentives, the Trust's programs have succeeded in helping Maine's residential, institutional, commercial, and larger industrial energy customers to make investments in their energy infrastructure. Leveraging RGGI funds, these customers have installed such upgrades as home insulation, new heating systems, and improved industrial processes that otherwise would not have occurred. Directing RGGI funds to be invested through the Trust's programs is helping Maine's energy consumers make a transition to a higher level of energy efficiency and reduced reliance on fossil fuels, while enjoying lower greenhouse gas emissions and operating costs.

**D. Research and support of new carbon dioxide offset allowance categories for development in the State.**

CO<sub>2</sub> allowance prices associated with the RGGI program auctions have increased over the last several quarterly auctions to the \$13 to \$15 per allowance range, however to date, these increased prices have not resulted in any increased demand for offset allowances or the projects that create them. This situation may change if CO<sub>2</sub> allowance prices continue to increase.

Public Law 2013, Chapter 369, section D-8, the Omnibus Energy Bill, directs the Department and the Commission to work together to develop and promote for recognition by the other states participating in RGGI, a modification of the existing end-use energy efficiency offset category to provide incentives for industrial and residential consumers to switch from the use of oil and coal to fuels with lower greenhouse gas emissions. The law also directs the Department and the Commission to report progress on the development of this offset category as part of this annual report. To date, the Department and Commission have conferred and exchanged ideas on how best to move forward with this directive. However, considering the current lack of demand for offset allowances; the fact that many residential, commercial, and industrial customers have already switched to natural gas for economic reasons alone; and issues associated with the "maximum market penetration rate" concept, the Department and Commission have determined that expending time and effort on developing this offset project category is not a cost-effective use of resources at this time.

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<sup>1</sup> Efficiency Maine Trust, [FY2023 Annual Report](#), November 21, 2023.

The “maximum market penetration rate” concept means that if offset projects within a specific category have already penetrated the market at a rate of 5% or more, offset projects in that category no longer qualify for offset allowances under the program. The Department and Commission will continue to monitor the level of demand for offset allowances, and if things change, will re-evaluate the situation.

**E. Management and cost-effectiveness of the State's energy conservation and carbon reduction programs and efforts funded by the RGGI Trust Fund through Efficiency Maine established pursuant to Title 35-A, section 10109.**

Table 4 shows how the Trust expended RGGI funds in FY 2023.

**Table 4: FY 2023 RGGI Funding**

| <b>Expenditure Category</b>                      | <b>FY 2023 Funds</b> |
|--|----------------------|
| Commercial & Industrial Custom Program           | \$ 1,375,632         |
| Commercial & Industrial Prescriptive Initiatives | \$ 2,212,738         |
| Retail Initiatives                               | \$ 143,460           |
| Distributor Initiatives                          | \$ 319,691           |
| Home Energy Savings Program                      | \$ 10,946,031        |
| Low-Income Initiatives                           | \$ 3,633,548         |
| High-Performance Affordable Housing Pilot        | \$ 278,302           |
| Efficiency Maine Green Bank                      | \$ 9,361             |
| Strategic Initiatives                            | \$ 632,279           |
| Administration                                   | \$ 737,283           |
| Inter-Agency Transfers                           | \$ 64,444            |
| Rate Relief                                      | \$ -                 |
| RGGI Inc. Payment                                | \$ 23,950            |
| <b>Total</b>                                     | <b>\$ 20,376,719</b> |

Table 5 shows savings of electricity (kWh), heating and process fuels (MMBtu), and greenhouse gases (GHG) attributable to the investment of RGGI funds.

**Table 5: Results Attributable to FY 2023 RGGI Investment**

| Expenditure Category                         | FY 2023 Funds        | Annual kWh Savings | Annual MMBtu Savings | Annual GHG Savings (Tons CO <sub>2</sub> ) |
|--|----------------------|--------------------|----------------------|--|
| Commercial & Industrial Custom Program       | \$ 1,375,632         | (880,249)          | 114,949              | 8,804                                      |
| Commercial & Industrial Prescriptive Program | \$ 2,212,738         | 58,396             | 20,849               | 1,709                                      |
| Retail Initiatives                           | \$ 143,460           | 103,891            | 582                  | 100  |
| Distributor Initiatives                      | \$ 319,691           | 1,267,660          | (748)                | 590  |
| Home Energy Savings Program                  | \$ 10,946,031        | 1,469,819          | 40,320               | 4,001                                      |
| Low-Income Initiatives                       | \$ 3,633,548         | (1,031,572)        | 19,299               | 1,025                                      |
| High-Performance Affordable Housing Pilot    | \$ 278,302           |                    |                      |  |
| Efficiency Maine Green Bank                  | \$ 9,361             |                    |                      |  |
| Strategic Initiatives                        | \$ 632,279           |                    |                      |  |
| Administration                               | \$ 737,283           |                    |                      |  |
| Inter-Agency Transfers                       | \$ 64,444            |                    |                      |  |
| Rate Relief Fund                             | \$ -                 |                    |                      |  |
| RGGI Inc. Payment                            | \$ 23,950            |                    |                      |  |
| <b>Total</b>                                 | <b>\$ 20,376,719</b> | <b>987,945</b>     | <b>195,251</b>       | <b>16,228</b>                              |

Notes on Tables 4 and 5:

- (1) These tables are limited to expenditures from RGGI. They do not reflect the Trust's use of other sources of funds – including the Electric Efficiency Procurement, the Natural Gas Efficiency Procurement, the Forward Capacity Market, federal grant funds, the Maine Power Reliability Program Settlement, the New England Clean Energy Connect Settlement, the Volkswagen Settlement Funds, and the State General Fund – which were variously used to fund additional expenditures in the categories shown in the tables. The comprehensive expenditures of the Trust are published in the Trust's FY 2023 Annual Report.
- (2) Commercial & Industrial Custom Program funds only reflect energy upgrades that were *completed* in FY 2023. Some RGGI funds were allocated in FY 2023 to projects that will be completed in future years. The spending and savings associated with those projects will be reflected in future RGGI annual reports.
- (3) As noted in Section G, RGGI revenues increased substantially in 2021, and continued to rise in 2022 and 2023. The Trust has responded by continuously ramping up program activity over the last three years. This has led to a corresponding increase in expenditures, from \$8.22 million in FY 2021 to \$14.07 million in FY 2022 to \$20.4 million in FY 2023. The Trust had an additional \$8.2 million in committed, yet unspent RGGI funds at the end of the year. Nevertheless, revenue balances still outpaced investment and auction revenues continued to come in above forecasts. The Trust therefore made further adjustments for FY 2024, including allocating additional resources for its new whole-home heat pump initiative (with significantly larger rebate amounts per project), increasing spending on heat pump water heaters in Low Income Initiatives, augmenting resources for weatherization through the Home Energy Savings Program, and setting aside more funds for a residential loan pool.

### Commercial & Industrial Custom Program

The Trust's Commercial & Industrial (C&I) Custom Program incentivizes tailored energy projects that require unique engineering analyses and/or projects with energy conservation measures that are not covered by the prescriptive incentive program. The C&I Custom Program is designed to overcome the barriers that confront Maine's larger businesses and institutions when making investments in complex energy efficiency and distributed generation projects. These projects represent important facility improvements that keep operating costs down for Maine's largest energy users.

The Trust completed 35 custom projects in FY 2023, 9 of which were fully or partially funded using \$1,375,632 in RGGI funds. This investment comprised approximately 30% of the program's overall expenditures and will save an estimated 8,804 tons of CO<sub>2</sub> annually.

### Commercial & Industrial Prescriptive Initiatives

The Trust's Commercial & Industrial Prescriptive Initiatives (CIPI) offer fixed-price financial incentives for a predefined list of widely available "off-the-shelf" efficiency measures. Typical measures promoted through this program include LED lighting fixtures; heating and cooling systems; and sector-specific solutions such as commercial kitchen and agricultural equipment. These measures have practical applications across the state in commercial, industrial, nonprofit, government, and institutional settings. The menu of fixed incentives is used to overcome the barrier represented by the incremental cost of high-efficiency equipment. The program encourages businesses to install more energy-efficient models than they would have otherwise.

In FY 2023, CIPI invested \$2,212,738 of RGGI funds to support incentives for high-efficiency heating systems and ancillary equipment, with a particular focus on expanding the promotion of variable refrigerant flow (VRF) heat pump technology. This investment comprised approximately 15.6% of the program's overall expenditures. The efficiency projects made possible by these RGGI funds will save an estimated 1,709 tons of CO<sub>2</sub> annually.

### Retail Initiatives

Retail Initiatives focus on energy-saving measures that sell in relatively high volumes through retail stores and that, on average and through typical usage, achieve predictable energy savings. The program leverages relationships with retailers to promote Efficiency Maine's mail-in rebates or instant discounts on energy-efficient products. Of all the Trust's programs, Retail Initiatives reach the largest number of Maine customers; this program also serves all sectors of the economy.

In FY 2023, Retail Initiatives invested \$143,460 of RGGI funds to drive heat pump water heater activity. The program launched a campaign encouraging customers to "Buy a heat pump water heater and give your boiler the summer off," targeting systems that pull domestic hot water off the boiler (i.e., tankless coil water heating). This investment

accounted for approximately 1.7% of the program's overall expenditures. The projects made possible through these RGGI funds will save an estimated 100 tons of CO<sub>2</sub> annually.

### Distributor Initiatives

Distributor Initiatives offer incentives for energy-efficient products acquired through distributors. Distributors are supply houses where contractors and larger customers go to purchase plumbing, heating, refrigeration, and electrical supplies. This midstream program leverages relationships with distributors of energy-efficient products to provide instant product discounts and to distribute technology information at the point of purchase.

As in Retail Initiatives, Distributor Initiatives invested \$319,691 of RGGI funds in FY 2023 to drive heat pump water heaters retrofits in homes with tankless coil water heating. This investment accounted for approximately 4.5% of the program's overall expenditures. The projects made possible through these RGGI funds will save an estimated 590 tons of CO<sub>2</sub> annually.

### Home Energy Savings Program

The Home Energy Savings Program (HESP) drives market-based home weatherization and installation of efficient heating systems by offering rebates and loans, providing customer and vendor education, and developing and maintaining a vendor network. HESP encourages energy efficiency upgrades in single-family homes and multifamily homes with up to four units.

HESP invested \$10,946,031 of RGGI funds in FY 2023. While the program continued to leverage these funds to support incentives for biomass boilers, biomass furnaces, geothermal heating systems, and heat pumps, a large focus was on increased rebates and expanded marketing for weatherization. These efforts drove an 8% increase in activity. Overall, RGGI investment accounted for approximately 41.2% of the program's total expenditures. The efficiency projects made possible through these RGGI funds will save an estimated 4,001 tons of CO<sub>2</sub> annually.

### Low-Income Initiatives

The Trust delivers energy-efficiency benefits to low- and moderate-income households through a portfolio of initiatives within three distinct channels: market-based initiatives, direct-mail campaigns, and direct installations. This blend of approaches is designed to overcome obstacles to cost-effective energy efficiency improvements for low-income Mainers.

Low-Income Initiatives invested \$3,633,548 in RGGI funds in FY 2023. The program leveraged these funds to support the installation of heat pump water heaters to replace systems that pull domestic hot water off the boiler (i.e., tankless coil water heating). It also used RGGI funds to support low- and moderate-income heat pump incentives. Overall, RGGI investment accounted for approximately 25.9% of the program's total expenditures. The

efficiency projects made possible through these RGGI funds will save an estimated 1,025 tons of CO<sub>2</sub> annually.

**F. The extent to which funds from the Regional Greenhouse Gas Initiative Trust Fund established pursuant to Title 35-A, section 10109 serve customers from all classes of the State's transmission and distribution utilities.**

Funding from the Trust was used to provide programs for residential (including low-income), commercial and industrial customer classes, including very large customers who receive electricity at the transmission and sub-transmission level, as set forth in previous sections of this report.

**G. The revenues and expenditures of the Regional Greenhouse Gas Initiative Trust Fund, established pursuant to Title 35-A, section 10109.**

Revenues from the sale of Maine's allowances under RGGI have totaled nearly \$200 million as of the end of calendar year 2023 (\$5.6 million in 2008, \$9.6 million in 2009, \$8.3 million in 2010, \$5.2 million in 2011, \$5.5 million in 2012, \$14.1 million in 2013, \$11.4 million in 2014, \$15 million in 2015, \$8.9 million in 2016, \$8.3 million in 2017, \$9.0 million in 2018, \$10.4 million in 2019, \$11.5 million in 2020, \$20.5 million in 2021, \$26.8 million in 2022, and \$29.5 million in 2023). Expenditures of the Regional Greenhouse Gas Initiative Trust Fund are described in section E of this report.

**Voluntary Renewable Energy Set-aside**

The number of allowances withheld from auction for use in the Voluntary Renewable Energy set-aside program are sufficient to adequately cover the number of claims, therefore the Department recommends maintaining the amount of the set-aside at the current level of 2% of Maine's annual CO<sub>2</sub> allowance budget.

**Recommendations**

The statutory reporting requirement also provides for the Department, the Commission, and Efficiency Maine to propose improvements to the program for the committee to consider.

Although the Department, the Commission, and Efficiency Maine do not recommend any changes to the program at this time, a regional program review was initiated in late 2021, and will continue into 2024. The conclusions of this program review may result in recommendations for changes to the program. The committees will be made aware of any recommendations that arise from this process.

The Department, the Commission, and Efficiency Maine are available to present this report, and answer any questions you may have.

Respectively submitted,



Melanie Loyzim, Commissioner  
Maine Department of Environmental Protection



Philip L. Bartlett II, Chairman  
Maine Public Utilities Commission



Michael Stoddard, Executive Director  
Efficiency Maine Trust